

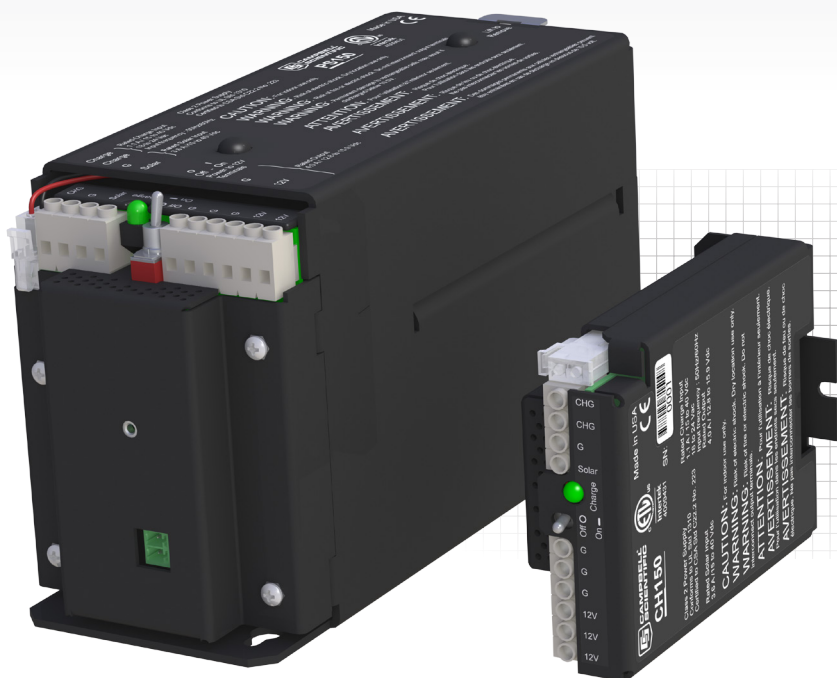


PS150 and CH150

Power Supply and Charge Controller

Optimized Power Performance

Manages voltage and amperage to protect battery



Overview

The PS150 and CH150 are smart charge controllers that manage amperage and voltage for safe, optimized battery charging from a solar-panel or ac power source. The PS150 includes a 12 Vdc, 7 Ah

valve-regulated lead-acid (VRLA) battery, while the CH150 is for use with a separate larger battery such as our BP12, BP24, or a user-supplied battery.

Benefits and Features

- › Protects against high-amperage and high-voltage damage to power supply
- › Battery reversal protection
- › Allows simultaneous connection of two charging sources (e.g., solar panel, ac wall charger)
- › ETL listed Class 2 power supply

Technical Description

The PS150 and CH150 are micro-controller-based smart chargers with temperature compensation that optimize battery charging and increase the battery's life. Two input terminals enable simultaneous connection of two charging sources. They also incorporate a maximum power point tracking algorithm for solar inputs that maximize available solar charging resources.

The PS150 and CH150 have several safety features intended to protect the charging source, battery, charger, and load devices. Both

the SOLAR – G and CHARGE – CHARGE input terminals incorporate hardware current limits and polarity-reversal protection. A 5 A fuse protects the CHARGE – CHARGE inputs in the event of a catastrophic AC/AC or AC/DC charging source failure. A 4.65 A solid-state circuit breaker protects the 12 V output terminals of the charger in the event of an output load fault. The PS150 and CH150 also have battery-reversal protection, and include ESD and surge protection on all of its inputs and outputs.

More info: 435.227.9000

www.campbellsci.com/ps150

Ordering Information

Power Supplies

- CH150** 12 V Charging Regulator. Choose a warranty option (see below).
PS150 12 V Power Supply with Charging Regulator and 7 Ah Sealed Rechargeable Battery. Choose a warranty option (see below).

Warranty Options (choose one)

- SW** Standard 1 Year Warranty. See manual for full warranty policy.
-XW 4 Year Warranty Extension (available only at the time of original product purchase).

12 Vdc Battery Packs for CH150

- BP12** 12 Ah Sealed Rechargeable Battery with Mounts
BP24 24 Ah Sealed Rechargeable Battery with Mounts

External Battery Cable

- 6186** Battery Cable for connecting an external 12 Vdc flooded battery such as a deep-cycle marine or RV battery.

Adapters

Only one adapter can be used at a time.

- A100** Null Modem Adapter for powering peripherals and external devices at non-datalogger sites such as repeater stations.
A105 12 V Terminal Expansion Adapter that increases the number of 12 V and ground terminals available on the PS150 or CH150.

Wall Chargers

- 29796** Wall Charger 24 Vdc 1.67 A Output, 100 to 240 Vac, 1A Input, 5 ft Cable. Must choose a power plug option (see below).
22110 Wall Charger 24 Vdc 1.67 A Output, 100 to 240 Vac, 1A Input for prewired enclosure. Must choose a power plug option (see below).

Power Plug Options (choose one)

- US** US/Canada Plug
-IP 7 International Plugs

Unregulated Solar Panels

Regulated solar panels such as the SP10R are not recommended.

- SP10** 10 W Solar Panel with 15 ft cable
SP10-PW 10 W Solar Panel with 15 ft cable for prewired enclosure
SP20 20 W Solar Panel with 15 ft cable
SP20-PW 20 W Solar Panel with 15 ft cable for prewired enclosure
SP50-L 50 W Solar Panel with user-specified cable length (used with the CH150 only). Enter length, in feet, after the -L. A 20 ft length is typical; maximum length is 50 ft. Must choose a cable termination option (see below).

Cable Termination Options for the SP50-L (choose one)

- PT** Cable terminates in stripped and tinned leads for connection to the CH150.
-PW Cable terminates in a connector that attaches to a prewired enclosure.

Specifications

- › CE Compliant
- › Operational Temperature Range*: -40° to +60°C
- › Dimensions:

	Height	Length	Width
PS150	10.6 cm (4.2 in)	19 cm (7.5 in)	7.6 cm (3 in)
CH150	10 cm (3.9 in)	7.5 cm (3 in)	3.7 cm (1.5 in)

Battery Charging

- › FLOAT Charging: $V_{batt}(T) = 13.65 - (24 \text{ mV}) \times (T - 25) + (0.24 \text{ mV}) \times (T - 25)^2$
- › Accuracy: ±1% accuracy on charging voltage over -40° to +60°C

CHARGE – CHARGE Terminals (AC or DC Source)

- › AC: 18 to 24 VRMS internally limited to 1.2 ARMS
- › DC: 16 to 40 VDC internally limited to 1.2 A DC

SOLAR Terminals (Solar Panel or Other DC Source)

- › Input Voltage Range: 15 to 40 Vdc
- › Maximum Charging Current: 4.0 Adc typical; 3.1 Adc to 4.8 Adc depending on individual charger

Quiescent Current

- › No Charge Source Present: 160 µA at 13.7 Vdc
- › No Battery Connected: 930 µA at 30 V input voltage (ac or dc)

Power Out (+12 terminals)

- › Voltage: Unregulated 12 V from battery
- › 4.65 A solid state circuit breaker
- › ETL Listed Class 2 power supply

*VRLA battery manufacturers state that "heat kills batteries" and recommend operating batteries ≤50°C.

